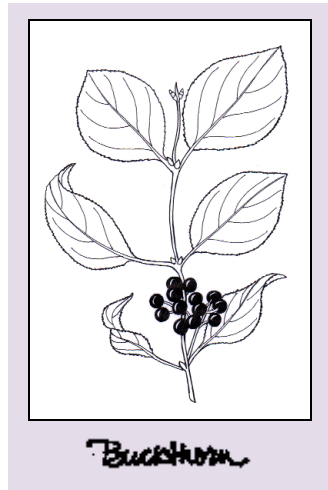


# Buckthorn Bust Neighborhood Guide



DEVELOPED BY TREE TRUST FOR:  
City of Saint Paul, Division of Parks and Recreation



Minneapolis Park and Recreation Board

FUNDING PROVIDED BY:  
USDA Forest Service, Northeastern Area, an equal opportunity provider





## TABLE OF CONTENTS

Introduction .....	ii
The Problem with Buckthorn.....	1
Identifying Buckthorn .....	2
Organizing a Private Property Buckthorn Bust.....	4
Organizing a Public Property Buckthorn Bust .....	7
Removal Strategies .....	9
Buckthorn Disposal .....	11
Plant Replacement and Design.....	12
More Information on Buckthorn.....	15

### WORKSHEETS, HANDOUTS, ETC.

- a - Bust Your Own Buckthorn: Individual Buckthorn Handout
- b - Planning Checklist for a Buckthorn Bust
- c - Suggested Planning Calendar
- d - Committee Worksheet
- e - Treasurer's Expense Report Form
- f - Fundraising Worksheet
- g - Volunteer Sign-up Sheet
- h - Buckthorn Bust Participation Form
- i - Before Buckthorn Bust Worksheet
- j - Equipment and Supplies Worksheet
- k - Press Release: What is so Bad About Buckthorn?
- l - Press Release: Busting Buckthorn in Your Neighborhood
- m - Buckthorn Inventory Homeowners' Map
- n - Doorhanger Sample
- o - Property Owner Sign-up Sheet
- p - Press Release: Learn to Remove Backyard Buckthorn
- q - Neighborhood/Block Buckthorn Bust Worksheet
- r - Public Property Buckthorn Bust Worksheet
- s - Buckthorn Bust Equipment Checklist
- t - Volunteer Buckthorn Buster
- u - Buckthorn Bust Team Leader
- v - Suggested Buckthorn Removal Timeline
- w - Volunteer Liability Release Form
- x - After Buckthorn Bust Worksheet
- y - Press Release: Neighborhood Busted Buckthorn

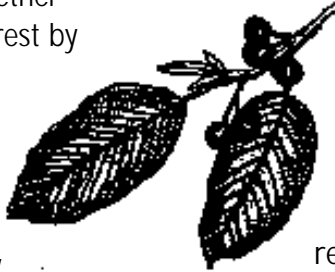
### PUBLICATIONS

- How to Prune Trees
- Plant a Tree the Right Way

# The **Buckthorn Bust** Neighborhood Guide

Community forestry is people working together to enhance their community and urban forest by planting and caring for trees, shrubs, and other plants. YOU, as a resident of your community, play an important role in urban and community forestry. The plants on your property are part of your community's urban forest. There are many economic, environmental, and social advantages to a healthy urban forest. Trees create beautiful places to live and work, connect people with the natural environment, reduce energy costs, provide homes for wildlife, and increase property values.

ALL OF US are responsible for the health of our urban forest. The types and management of plants in the community and on your own property determine the health of the urban forest. Invasive plants, such as buckthorn, are detrimental to the health of the urban forest. They threaten the future of urban forests by reducing biodiversity, destroying wildlife habitat, out-competing other important native plants, and changing the landscape. *Imagine an urban forest that is one enormous thicket of buckthorn.* There would be no diversity of plants; no place for songbirds to nest in the lower canopy; only one type of fruit for small animals. Healthy established urban forests depend on the removal of invasive plants.



This guidebook is a resource for communities, neighborhoods and individuals to develop removal programs for invasive plants, specifically buckthorn.

YOU can help by removing buckthorn and other invasive plants from your own property, and by getting involved with organizing or carrying out a buckthorn removal project in your community. You play a major role in the health and vitality of your community forest.

*Join in and help improve the health of your urban forest!*

## How to use this Guide

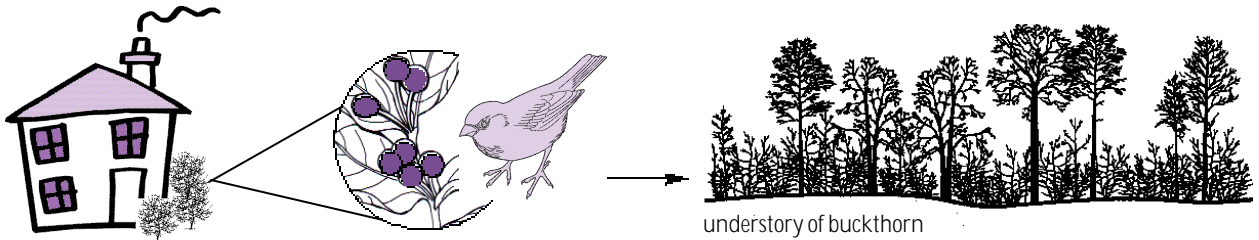
Chapters 1, 2, and 5-7 should provide the general background and technical information about buckthorn that is needed to start a removal program. Chapters 3 and 4 should be used as a tool to help communities through the process of organizing and implementing a successful buckthorn removal program on both private and public property. Throughout the guide various worksheets are referenced in parenthesis where they will be most helpful. These worksheets are all in back of the guide in the order they appear in the text. Chapter 8 gives useful resources and contacts that communities should consult for additional information and assistance.

# The Problem with Buckthorn

Common Buckthorn (*Rhamnus cathartica*) and Glossy Buckthorn (*Frangula alnus*) are the two types of non-native, invasive buckthorns found in Minnesota. Both were introduced to North America from Europe in the 1800s. These buckthorn species have long been used as hedgerows, ornamental shrubs and shelterbelts in homeowners' yards, but also grow into small trees.

Even though buckthorn makes a nice full hedge in a yard, it also makes an impenetrable, messy thicket in parks, roadsides, forests, and your

neighbor's backyard. Buckthorn fruits produce 2-4 seeds that remain viable for up to six years, which adds up to a lot of buckthorn waiting to sprout! Birds eat the buckthorn fruit and then deposit the seeds everywhere on the fly. Because buckthorn tolerates shade, full-sun, drought and bad soil, it grows just about anywhere. As a result, buckthorn quickly moves from pruned, well-kept yards and invades other areas. Buckthorn does not stay put, whether you want it to or not. So, together let's start removing buckthorn before it takes over and destroys our urban forest. *We need your help!*



## Bad things about buckthorn:

- out-competes our native plants for light, moisture and nutrients
- reduces species diversity of plants and song birds in forests
- forms an impenetrable thicket or understory layer (picture)
- destroys wildlife habitat
- provides only one type of fruit for songbirds when other native foods have diminished
- has seeds that remain viable up to 6 years
- contains a laxative that causes birds to deposit undigested seeds
- has messy fruits that stain cars, decks and concrete
- tolerates shade, full-sun, drought and poor soils
- lacks natural controls like insects and plant diseases that attack it. As of now, there is no biological control agent for buckthorn.

- contributes to erosion by shading out plants on the forest floor
- hosts crop pests: crown rust fungus (*Puccinia coronata*) and soybean aphid (*Aphis glycines*)
- threatens the future of our forests, prairies, wetlands and other habitats

For these reasons, in 2001 the Minnesota Department of Agriculture declared both Common and Glossy Buckthorn **RESTRICTED NOXIOUS WEEDS**. This means that sale, transportation, or movement of these plants is prohibited statewide by the Minnesota Department of Agriculture.

## BUCKTHORN BITE

A single stem of buckthorn cut down to the ground will re-sprout from the stump and grow many new stems up to 6 feet in a single growing season, creating a very large shrub again in one to two years.

## Identifying Buckthorn

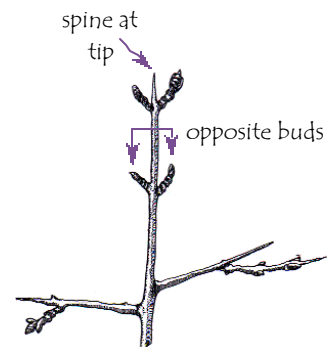
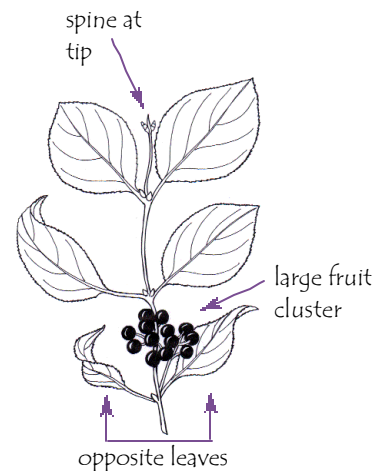
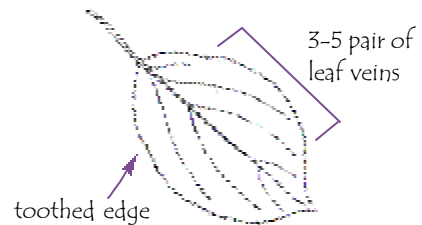
**B**ad types of Buckthorn: *Common Buckthorn* and *Glossy Buckthorn* are the two **invasive, non-native** Buckthorn species found in Minnesota.

### IDENTIFY YOUR ENEMY!

Knowing how to identify buckthorn is the first step to getting rid of it.

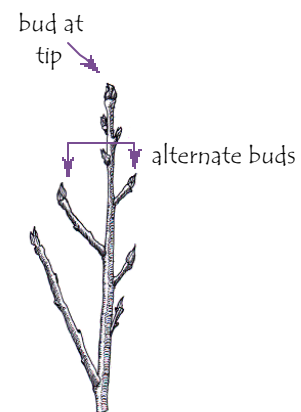
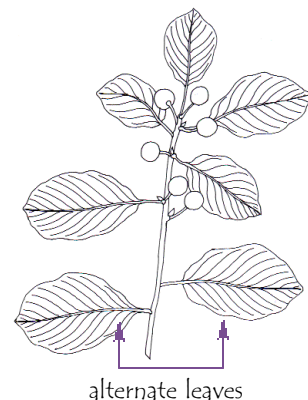
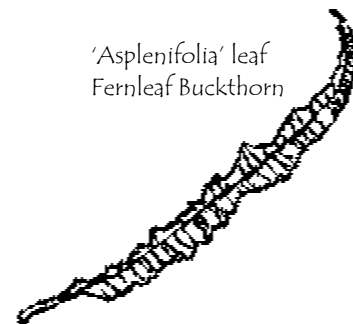
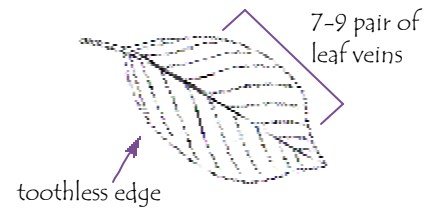
### COMMON BUCKTHORN

SCIENTIFIC NAME	<i>Rhamnus cathartica</i>
OTHER COMMON NAME	European Buckthorn
NURSERY CULTIVARS	None
TYPE OF HABITAT IT INVADES	Invades primarily dry areas, like woodlands, savannas, prairies, abandoned fields, roadsides; will grow in full sun and dense shade
SHAPE OF PLANT	Height = 10-25 ft; upright, oval form
LEAVES	<ul style="list-style-type: none"> <li>● egg-shaped with finely toothed edges</li> <li>● dark green, dull to glossy</li> <li>● opposite at tip of stem</li> <li>● 3-5 pairs of curved leaf veins</li> <li>● leaves stay dark green and on the tree late into autumn</li> </ul>
STEMS	<ul style="list-style-type: none"> <li>● opposite buds</li> <li>● sharp thorn at tip of twig!</li> </ul>
FLOWERS	<ul style="list-style-type: none"> <li>● produced in May</li> <li>● small, yellowish green color</li> <li>● 4 petals</li> </ul>
FRUIT AND SEED	<ul style="list-style-type: none"> <li>● round berry-like fruit ~1/4" diameter</li> <li>● arranged in large clusters</li> <li>● green to black color</li> <li>● each fruit contains 3-4 seeds</li> </ul>



## GLOSSY BUCKTHORN

SCIENTIFIC NAME	<i>Frangula alnus</i>
OTHER COMMON NAME	Fen Buckthorn, Alder Buckthorn
NURSERY CULTIVARS	<i>Columnaris</i> (Tall Hedge Buckthorn)—narrow, columnar form. <i>Asplenifolia</i> (Fernleaf Buckthorn)—narrow, fern-like leaves.
TYPE OF HABITAT IT INVADES	Invades primarily wet areas, like bogs, marshes, river banks, wetlands, pond edges; will also grow in dry areas; will grow in full sun and dense shade.
SHAPE OF PLANT	Height = 10 -18 ft; upright, oval form
LEAVES	<ul style="list-style-type: none"> <li>● oval shaped with toothless edges (<i>Frangula alnus</i>) or narrow and fernlike (<i>asplenifolia</i>)</li> <li>● dark green and glossy, underside of leaves may be hairy</li> <li>● alternate on stem</li> <li>● 3-5 pairs of curved leaf veins</li> <li>● 8-9 pairs of leaf veins</li> <li>● leaves stay green and on the tree late into autumn</li> </ul>
STEMS	<ul style="list-style-type: none"> <li>● alternate buds</li> <li>● NO thorn at tips of twig</li> </ul>
FLOWERS	<ul style="list-style-type: none"> <li>● produced in late May-June</li> <li>● small, creamy-green color</li> <li>● 5 petals</li> </ul>
FRUIT AND SEED	<ul style="list-style-type: none"> <li>● round berry-like fruit ~1/4" diameter</li> <li>● produces less fruit than Common Buckthorn</li> <li>● red-brown to black color</li> <li>● each fruit contains 2-3 seeds</li> </ul>



# Organizing a Private Property Buckthorn Bust

## What is a Private Property Buckthorn Bust?

- ~ Individual homeowner removal
- ~ A neighborhood or block removal/collection day

- ~ Organized by a group of leaders and volunteers
- ~ Homeowners are directed and educated about the buckthorn problem, how to remove it, and what to plant in its place.

### INDIVIDUAL BUCKTHORN BUST—You can help!

- Even if your neighborhood or community is not organizing a Buckthorn Bust, you can still help! Remove the buckthorn plants on your own property (*Chapter 5*).
- Removing buckthorn plants on your own property prevents the dispersal of seeds to your neighbor's yard as well as nearby parks, pond edges, roadsides, etc.
- Pass on information about buckthorn removal to your neighbors and friends (*Chapter 5 and 6*) or (*a - Bust Your Own Buckthorn Handout*).
- Check Chapters 5 & 7 to see how to remove buckthorn and replace it with new plants.

### NEIGHBORHOOD/BLOCK BUCKTHORN BUST

#### 6-8 Months Before Buckthorn Bust

##### 1. Organize a buckthorn team

- Establish a team of individuals to organize the Buckthorn Bust.
- Recruit individuals from each block or neighborhood to represent their area by being a block or community coordinator. You can also ask local political leaders, officials, and business leaders to be part of the team.
- Schedule monthly/weekly team meetings to plan for the Buckthorn Bust (*b - Planning Checklist for a Buckthorn Bust, c - Suggested Planning Calendar*).

- Create committees within the team like Volunteers, Education, Advertising, Buckthorn Inventory, etc. (*d - Committee Worksheet, e - Treasurer's Expense Report Form*).
- Determine how you will fund the Buckthorn Bust. If needed, apply for a grant through a neighborhood association or other organization, or charge each participating homeowner a fee to help with collection and disposal costs (*f - Fundraising Worksheet*).

##### 2. Recruit volunteers

- Find individuals to help with organizing and implementing the Buckthorn Bust and assign them to a committee. (*g - Volunteer Sign-up Sheet, h - Buckthorn Bust Participation Form*)
- Ask garden clubs, Rotary, Masons, Lions, Veterans, religious, school and other service groups to help on the day of the Buckthorn Bust. For example, groups could be asked to help individual homeowners that want to participate in the Buckthorn Bust day, but can not physically remove the plants by themselves.

#### 2-4 Months Before Buckthorn Bust

##### 1. Make your action plan

- Determine date and locations of Buckthorn Bust
- Plan the schedule for Buckthorn Bust (*i - Before Buckthorn Bust Worksheet, j - Equipment and Supplies Worksheet*).
- Send out bids to local licensed tree services to have the buckthorn collected and disposed of from participating homes on the day of the Buckthorn Bust (*Chapter 6*).



## 2. Advertise your Buckthorn Bust

- Prepare a press release for a local newspaper or newsletter (*k - Sample Press Release: What is So Bad About Buckthorn?*) informing the neighborhood/block about the buckthorn problem and ways that they can help. Advertise the details about your Buckthorn Bust (*l - Sample Press Release: Busting Buckthorn in Your Neighborhood*).

## 3. Inventory buckthorn on homeowner's property

- Train individual volunteers that will be helping with inventory of the buckthorn. Find trained master gardeners or tree care advisors to assist with the inventory.
- Map/record where and how much buckthorn is on each homeowner's property in the neighborhood/blocks where the Buckthorn Bust will take place (*m - Buckthorn Inventory Homeowner Map*).
- Deliver or leave a doorhanger to notify homeowners that have buckthorn on their property. Make sure they know who they should contact if they want to participate in the Buckthorn Bust or have any questions (*n - Doorhanger Sample*). Notifying homeowners may require a second literature drop or phone call.

## 1-2 Months Before Buckthorn Bust

1. Determine the homeowners that will participate in Buckthorn Bust Day
- Assemble a list of participants (*o - Property Owner Sign-up Sheet, h - Buckthorn Bust Participation Form*). Make any necessary phone calls to find out or confirm who is participating.
  - Mail letters to participants with details about the Buckthorn Bust. Include date, time, removal methods (*Chapter 5*), disposal/collection information (*Chapter 6*), who to call with questions, and name of block coordinator.
  - Answer any questions from property owners.
  - Create a map of pickup sites for hired tree service contractor.

## 2. Train volunteers

- Organize and schedule a hands-on workshop for volunteers helping on Buckthorn Bust day. Teach them about the buckthorn problem and the steps to removal, and also provide them with educational materials. Go over the details for Buckthorn Bust (*p - Sample Press Release: Learn to Remove Backyard Buckthorn*).

## 3. Determine assignments for Buckthorn Bust

- Assign volunteers to help homeowners that need assistance with removal.
- Assign a group to deliver refreshments to volunteers or participating homeowners.
- Delegate a group to set up and monitor a Buckthorn Station where homeowners can ask questions, get last minute tips about removal and disposal, or borrow tools (*q - Neighborhood /Block Buckthorn Bust Worksheet*).
- Arrange for all equipment needed (*s - Buckthorn Bust Equipment Checklist*).

## 2 Weeks before Buckthorn Bust

- Finalize all participants in the Buckthorn Bust
- Notify public works or other agencies to secure "No Parking" signs where needed.

## 1 Week before Buckthorn Bust

- Prepare final pickup map for the hired tree service contractor.
- Deliver "No Parking" signs to each participant with instructions, so that the contractor can easily pick up properly stacked buckthorn.

## 1 Day Before Buckthorn Bust

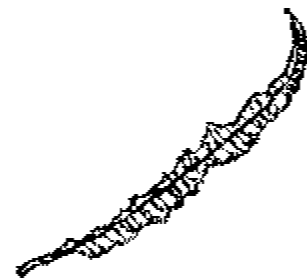
- Drive the pickup route to determine if there are any changes that need to be made.
- Make sure all "No Parking" signs are in place; otherwise notify property owner.

## Day of Buckthorn Bust

- Make sure all volunteers are in the right place.
- Check to be sure all pickups were completed.
- Celebrate!

## After Buckthorn Bust

- (*x* - *After Buckthorn Bust Worksheet*)
- Send out "I busted buckthorn for a better backyard" certificates or thank you letters to recognize all volunteers and participants
- Assess the Buckthorn Bust by discussing what worked and what did not work. Note any changes you would make for future Buckthorn Busts.
- Prepare a press release that details results and participation of the Buckthorn Bust (*y* - *Press release: Neighborhood Busted Buckthorn*).
- You may wish to organize a plant replacement/design workshop for participants (*Chapter 7*).



# Organizing a Public Property Buckthorn Bust

## What is a Public Property Buckthorn Bust?

- ~A buckthorn removal day on a public property project site, like a park or roadside
- ~Organized and implemented by both a group of leaders and volunteers from the

- community as well as the city
- ~ People work together to remove buckthorn from the public site on a particular day
- ~Volunteers are directed and educated about the buckthorn problem, how to remove it, and what to plant in its place.

### 12-18 Months Before Buckthorn Bust

1. *Determine public property site and acquire appropriate permission for removal.*
2. *Organize a buckthorn team*
  - Establish a team of individuals to organize the Buckthorn Bust.
  - Recruit individuals from around the area of the removal to be community coordinators. Work with local political leaders, city officials, and business leaders including the agencies responsible for the public property.
  - Schedule monthly/weekly team meetings to plan for the removal (*b - Planning Checklist for a Buckthorn Bust, c - Suggested Planning Calendar*).
  - Create committees within the team like Volunteers, Education, Advertising, Buckthorn Inventory, etc. (*d - Committee Worksheet, e - Treasurer's Expense Report Form*).
  - Determine how you will fund the Buckthorn Bust. If needed, apply for a grant or seek funding from the city (*f - Fundraising Worksheet*).

### 9-12 Months before Buckthorn Bust

1. *Make your action plan*
  - Determine date of Buckthorn Bust
  - Plan the schedule for Buckthorn Bust (*i - Before Buckthorn Bust Worksheet, j - Equipment and Supplies Worksheet*).
  - Check with the city or public property owner to see if they have staff or a contractor to help with removal, collection and disposal. If not,

you should send out bids to licensed tree services to have the buckthorn collected and disposed of from the removal site (*Chapter 6*).

### 3-6 Months Before Buckthorn Bust

1. *Advertise your Buckthorn Bust*
  - Prepare a press release for a local newspaper or newsletter (*k - Sample Press Release: What is So Bad About Buckthorn?*) informing the community about the buckthorn problem and ways that they can help. Advertise the details about your Buckthorn Bust.
2. *Recruit volunteers*
  - Ask garden clubs, Rotary, Masons, Lions, Veterans, religious, school, and service groups as well as community members to help on Buckthorn Bust (*g - Volunteer Sign-up Sheet*).
  - Assemble a list of volunteers. Organize volunteers into teams and designate team leaders.
3. *Inventory Buckthorn on removal site*
  - Coordinate with city/property owners to arrange for the inventory.
  - Train individual volunteers that will help with inventory of the buckthorn. Find master gardeners, tree care advisors or Department of Natural Resources staff to assist with training and inventory.
  - Map/record where and how much buckthorn is on the removal site. Determine the removal strategies you will use depending on the sizes and amount of buckthorn in each area of the site.

*continued*

## 1-2 Months Before Buckthorn Bust

### 1. Determine assignments for Buckthorn Bust

- Assign groups along with their group leader to a specific task or area of the removal site
- Assign some volunteers to run a refreshment table since removing buckthorn is hard work (*r - Public Property Buckthorn Bust Worksheet*).
- Arrange for all equipment needed (*s - Buckthorn Bust Equipment Checklist*).

### 2. Train volunteers

- Mail letters to team leaders and volunteers with details about the Buckthorn Bust. Include date, time, location, directions to the site, who to call with questions, name of community coordinator, team leader, and other team members (*t - Volunteer Buckthorn Buster, u - Buckthorn Bust Team Leader*).
- Organize and schedule a hands-on workshop for team leaders helping on Buckthorn Bust. Teach team leaders about the buckthorn problem and the removal strategies they will be using. Go over details for the Buckthorn Bust.
- Answer any questions of volunteers.

### 3. Secure necessary permits for access and street closings.

## 2 Weeks Before Buckthorn Bust

- Finalize team leaders and other volunteers for the Buckthorn Bust.
- Notify public works or other agencies to secure parking signs or barricades where needed.
- Order any other informational or directional banners or signs you may need.

## 1 Week Before Buckthorn Bust

- Coordinate with contractor or agency to double check correct location and time for removal and/or pickup of the buckthorn.
- Review Buckthorn Bust schedule and volunteer

assignments and make any changes that need to be made.

## 1 Day Before Buckthorn Bust

- Make sure all parking and directional signs are in place for volunteers.
- Have portable toilets delivered if needed.
- Double check that you have all equipment including the first aid kit.

## Day of Buckthorn Bust

- Welcome volunteers and start the Buckthorn Bust with a short training meeting.
- Have volunteers sign a liability release form (*w - Volunteer Liability Release Form*).
- Make sure all volunteers and groups are in the right place.
- Check to be sure the pickup was completed.
- Celebrate!

## After Buckthorn Bust

- (*x - After Buckthorn Bust Worksheet*)
- Send out "I busted buckthorn" certificates or thank you letters to recognize all volunteers.
- Assess the Buckthorn Bust by discussing what worked and what did not work. Note any changes you would make for future Buckthorn Busts.
- Since new buckthorn plants will continue to grow, discuss future control and support for long-term programs to remove invasive species.
- Prepare a press release that details results and participation in the Buckthorn Bust (*y - Sample Press Release: Neighborhood Busted Buckthorn*).
- Develop a plant replacement plan if needed.

# 5 Removal Strategies

## Buckthorn removal:

- ~is labor intensive
- ~combines several different strategies
- ~needs to be implemented over several years in order to successfully remove buckthorn and reestablish the area with native species (v - Suggested Buckthorn Removal Timeline).

### Control or Reduction?

*Where buckthorn has not completely infested an area, control is a reality. But where it has created a near monoculture throughout a sizable area, reduction might be a better reality than control.*

## MECHANICAL CONTROL

Remove buckthorn from late June up to when cold weather and snow are here to stay. Use a combination of pulling, digging, and cutting where plants are sparse; lightly pack disturbed soil resulting from pulling and digging to discourage reinfestation by buckthorn.

### Hand removal

Pull out small seedlings by hand. Seedlings pull out most easily when stem is less than 3/8 inch in diameter. Removal is easier when soil is moist.

### Digging

Buckthorn doesn't re-sprout from underground roots. However, replacement plants benefit from digging the roots. Before you dig call your state's one-call agency (*Chapter 8*) to locate all underground utility lines.

### Weed Wrench™ or Root Talon™

Use to pull up larger plants (3/8" - 1 1/2" diameter). Rent from a hardware store or order at [www.lampdesign.com](http://www.lampdesign.com) or [www.canonbal.org/weed.html](http://www.canonbal.org/weed.html)

### Cutting

Cut woody plants larger than 1 1/2" diameter. Then chemically treat the remaining stump to prevent re-sprouting (*next page*) or use the tin can method.

### Tin can method

This method can be used instead of chemical treatment to prevent a cut stump from resprouting. When cutting, leave 3" stump above the soil. Use a tin can several inches in diameter

larger than the cut stump. Drill nail holes around the entire can 2" below the can opening. Set the can over the stump and push it into the soil at least 1". Nail through the holes into the stump. Leave in place for two years. If green sprouts emerge, remove them as soon as they appear. These shoots are a sign you need a larger diameter can.

Removal Strategies	Type of Buckthorn
HAND REMOVAL	Small seedlings <3/8" diameter
DIGGING	Larger seedlings and underground roots
WEED WRENCH™ ROOT TALON™	Stem 3/8" to 1 1/2" diameter
CUTTING	Tree-like shrubs with trunk >1 1/2" diameter
TIN CAN METHOD	Cut stump
CHEMICAL TREATMENT	Cut stump, Frill cut, or Basal Bark Treatment on large buckthorn plants

### REMOVAL TIPS

- Make sure those removing thorny buckthorn have up-to-date tetanus shots.
- Use repellent if it is tick season.
- Wear heavy weight clothes like denim. Light weight fabric is easily shredded by common buckthorn.
- Use safety glasses and leather gloves.
- Stronger teens or adults should move large buckthorn wood since it is very heavy.
- Remove female (fruiting) buckthorn plants first.
- Prioritize removals. Target quality wooded areas only marginally infested that still have pockets of native plants. Or choose visible areas in parks or along trails.

## CHEMICAL CONTROL

Misuse of pesticides can injure applicator and/or damage the environment. Always **READ THE LABEL** before applying chemicals! Know what you are doing *before* you start. Use proper equipment and wear proper protective wear.

### *Cut Stump Treatment*

Cut stumps can be chemically treated with a paint-brush, wick applicator, or a low volume sprayer. It is very important that bark on the sides of the stump, including all exposed roots, be treated as well as the top of the stump. Apply chemicals immediately or within 24 hours after the cut to be most effective against re-sprouting. Use *Stronger Roundup*, which is 25% glyphosate in areas not directly next to water. In areas next to water, call your Department of Natural Resources for requirements. When removing buckthorn from highly infested areas, it is helpful to mark the cut stumps with colored flags. Cut stumps are easily lost under debris and other brush.

### **CHEMICAL APPLICATION TIPS**

- **Late summer, autumn, and winter are the best times to chemically treat buckthorn, since the sap is flowing toward the roots and this allows for maximum herbicide absorption.**
- **Autumn applications are less likely to damage non-target plants, since buckthorn has a longer growing season. This is also a convenient time because buckthorn leaves remain green and attached, while leaves of native plants are turning color, falling, and gone, making buckthorn easier to identify.**
- **When using a brush applicator on cut stumps, use good quality brushes. Foam brushes quickly disintegrate.**

## ADDITIONAL CONTROL STRATEGIES FOR TRAINED PROFESSIONALS ONLY

*The following are control strategies that are only suggested for larger projects sites or a Public Property Buckthorn Bust, and should not be used by individual homeowners or volunteers. Contact professionals for advice, appropriate chemicals and application.*

### *Foliar Chemical Treatment*

A chemical spray can be used to treat buckthorn plants up to 3 feet tall. Foliar sprays are best for understory layers, where buckthorn infestation is high. Spraying should be applied during autumn, and when spraying only use a fine spray just to wet all foliage. It is not necessary to spray such a heavy amount that it is dripping off the leaves.

### *Frill Cuts with Chemical Treatment*

Wound the bark with an axe around the circumference of the buckthorn tree trunk to create a frill. Then apply chemical to exposed axed areas and adjacent bark. This is an effective method for large trees that can be left standing.

### *Basal Bark Chemical Treatment*

Apply directly to the bark at the base of the buckthorn plant to provide effective control. Spray the lowest 2 feet of bark around the entire circumference of the tree. For buckthorn plants with less than 2 inch diameter, only one side of the stem needs to be sprayed. This is a fast, effective method of controlling larger trees on large sites.



# Buckthorn<sup>6</sup> Disposal

**N**ow that you have removed the buckthorn from your site, how do you get rid of it? Following are suggestions about how to dispose of buckthorn brush. Keep in mind that each

Buckthorn Bust is unique and may have different disposal requirements specific to the city or community.

## BUCKTHORN BRUSH

### *Individual Buckthorn Bust*

In many cities removed buckthorn can be included in yard waste that is picked up. Check with your city about pick-up details, including times during the year when yard waste is picked-up and any special requirements about how the brush needs to be stacked and/or bundled. Another option is to contact your city about drop-off locations for yard waste, where you may be able to bring your removed buckthorn brush.

### *Neighborhood/Block Buckthorn Bust*

For a Neighborhood/Block Buckthorn Bust, hire a certified, bonded and insured tree-service contractor to pick up or chip all removed buckthorn from participating homes in one trip. Once participating homeowners are confirmed, make a pick-up map for the contractor with all locations clearly marked. Notify participants about staking and/or bundling instructions for correct pick-up.

### *Public Property Buckthorn Bust*

For a Public Property Buckthorn Bust, coordinate with the city or land-owning public agency to arrange for removal, pick up and/or chipping removed buckthorn from the site. Make sure to check about how the buckthorn brush, roots, and stumps should be stacked and/or bundled at the public site for easy pick-up.

## BUCKTHORN ROOTS

Buckthorn roots should not be put through the chipper, since there are often rocks and other debris on the roots that can damage the chipper machine and pose a danger for workers. So, check if the tree service contractor will be chipping or just collecting the removed buckthorn on Buckthorn Bust day. If it is being chipped, you should not include any roots unless they are washed beforehand.

## BUCKTHORN WOOD

If you know of woodworkers interested in this wood for carving or building purposes, get them involved. Larger diameter log sections, at least 3 inches in diameter, work best.

### BUCKTHORN PICK-UP/COLLECTION TIPS

#### DO:

- **Set your piles in the front yard close to the side walk but not overhanging it.**
- **Pile the buckthorn so that all the cut ends of the branches are pointing towards the street.**
- **Remove and vines that may be growing around your buckthorn.**

#### DO NOT:

- **Block public sidewalks or streets with buckthorn branches/trunks.**
- **Make piles taller than 4 ft.**
- **Include any unwashed buckthorn roots if your brush will be chipped.**

# 7 Plant Replacement and Design

Once buckthorn is removed from the property, replacement plants need to be determined. This is a great opportunity to re-design the landscape to conserve energy, create wildlife habitat and

beautify the area. Before selecting replacement plants, take time to outline your goals and ideas for the new landscape.

## Reasons for planting

1. Energy Conservation – Planting trees and shrubs provides summer shade for you and your house. Planting on the west side of the house or building helps because it shades the house during the hottest time of the day. However, the east side is also effective. For larger lots, plant trees and shrubs as a wind break on the north and northwest sides of the house or building.
2. Aesthetics & Economics – Native trees and shrubs add color and texture to the landscape. Plants help blend a building into the landscape, softening edges and screening foundations. Plants add value to your property.
3. Wildlife habitat – Trees and shrubs create food and shelter for wildlife, especially birds.
4. Food for People – Vegetable gardens and fruit trees provide food and add variety to the landscape.

## Planning Your Site

1. Site Plan – Make an accurate map of your lot, with house, trees and shrubs and other elements on it. Using graph paper is helpful. Measure and sketch the house, sheds, driveways, sidewalks, decks, overhead and underground utilities, septic tanks, drain fields, trees (including the spread of the crown) and shrubs. Note which way is north.
2. Designing – Decide what uses you want from your home landscape. Your list might include: play areas for children, screening for privacy, pleasing views from certain windows, fall or spring color, shady areas, or vegetable or

flower gardens. Using a piece of tracing paper over your map, draw a scheme for the use of your landscape. Draw in new trees and shrubs where you want them. Focus on the plant characteristics you would like instead of specific species - e.g. a 6' tall shrub that makes a good screen and grows in the shade. Keep in mind maintenance issues like: Will I be able to get my lawn mower easily to all turf areas? Also consider plant sizes at maturity.

3. Plant Selection – One of the best ways to select plants is to take your plan and list of plant characteristics to your local nursery. They can show you species to fit your requirements. There are many different native woody plants used to replace buckthorn. The following tables contain suggestions for Minnesota. Consult your local nursery, extension service, or other agencies.

## Replanting

For information about how to plant and care for trees and shrubs, see publications, *Plant a Tree the Right Way* and *How to Prune Trees*. Also view [www.treetrust.org](http://www.treetrust.org).

## Advantages of waiting 1-2 years before replanting:

1. Allows you to re-evaluate the space where the buckthorn used to be. Maybe you like the new open space or would prefer to plant a new hedge somewhere else.
2. Provides time to explore options for the type and design of your replacement plants.
3. Gives time for the old buckthorn roots to decay, benefiting the soil for replanting.



## RECOMMENDED PLANTS – for replacing buckthorn

HEDGE PLANTS	Size	Form	Zone	Fall Color	Flower	Light	Culture/Comments
<i>Amelanchier</i> spp. Serviceberry	20-30'h 12-20'w	columnar to oval	4-8	yellow, copper to red	white pink	☉●	Can form thickets. White fruit. Selected cultivars: 'Cumulus,' 'Majestic,' 'Autumn Brilliance,' 'Robin Hill.'
<i>Aronia melanocarpa</i> Black chokeberry	3-6'h 2-6'w	rounded to upright	3-7	red to purple	white	☉●	Tolerant of wide range of soils. Selected cultivar: 'Autumn Magic.'
<i>Buxus microphylla</i> var. <i>koreana</i> Korean littleleaf boxwood	2'h 2-3'w	upright spreading	4-9	copper to bronze	—	☉	Makes low formal hedge. One of the hardiest boxwoods.
<i>Cornus</i> spp. Dogwood	6-20'h 5-15'w	rounded to upright	3-8	yellow, red to purple	white yellow	☉●	Check specific species and cultivars for details.
<i>Cotoneaster lucidus</i> Hedge cotoneaster	8-10'h 4-5'w	upright	2-6	red	pink	☉	Spreading branches.
<i>Hydrangea</i> spp. Hydrangea	3-10'h 3-15'w	rounded to upright	3-9	—	white, blue, pink	☉●	Check species for details. Some flowers change color with pH of soils.
<i>Juniperus chinensis</i> Chinese juniper	12-20'h 15-25'w	pyramidal	4-8	—	—	☉	Evergreen. Tolerant of wide range of soils and pH and urban environment; attracts birds. Selected cultivars: 'Iowa,' 'Mountbatten,' 'Spartan.'
<i>Juniperus osteosperma</i> Utah juniper	25'h 20'w	pyramidal	3-8	—	—	☉	Evergreen. Provides good screen.
<i>Philadelphus</i> spp. Mockorange	3-12'h 3-8'w	upright oval	4-8	—	white	☉	Check specific species and cultivars for details.
<i>Physocarpus opulifolius</i> Ninebark	6-10'h 4-8'w	rounded upright- spreading	2-7	—	white to pink	☉●	Check cultivars for details. Cultivars with different color foliage.
<i>Picea glauca</i> White spruce	4-6'h 3-4'w	pyramidal	4-6	—	—	☉	Very slow growing.
<i>Pinus mugo</i> Mugo pine	15-20'h 25-30'w	rounded to pyramidal	3-7	—	—	☉●	Deep moist loam. Tolerant of calcareous soils.
<i>Spiraea</i> spp. Spirea	1-6'h 2-6'w	rounded	3-8	yellow-orange, red to purple	white to red, pink	☉●	Check specific species for details.
<i>Syringa</i> spp. Lilacs	5-15'h 4-12'w	rounded to upright to spreading	3-7	green	violet, pink blue, white purple	☉	Check specific species and cultivars for details.
<i>Thuja occidentalis</i> Arborvitae	10-25'h 10-25'w	pyramidal	3-7	—	—	☉	Evergreen, pH tolerant. Check specific cultivars for details.
<i>Viburnum</i> spp. Viburnums Cranberry	6-15'h 6-10'w	rounded to upright	4-8	yellow, red purple	cream white	☉●	Check specific species and cultivars for details.

ORNAMENTAL SHRUBS	Size	Form	Zone	Fall Color	Flower	Light	Culture/Comments
<i>Diervilla lonicera</i> Dwarf bush honeysuckle	3'h 3'w	rounded spreading	3-7	bronze to red	yellow	☉☾	Interesting foliage color.
<i>Prunus besseyi</i> Western sandcherry	5-6'h 5-6'w	upright to rounded	3-6	—	white	☉	Tolerates hot, dry soils.
<i>Rhus aromatica</i> 'Gro-Low' Fragrant sumac	5-6'h 5-6'w	rounded to upright	4-9	red to orange	yellow	☉	Excellent massing ground cover. Separate male and female plants.
<i>Salix discolor</i> Pussy willow	10-20'h 10-15'w	upright	4-8	—	silvery fuzzy	☉☾	Catkins can be used in flower arrangements.
<i>Symphoricarpos albus</i> Snowberry	5-6'h 3-6'w	broad rounded	3-7	—	pink	☉☾	White berries are interesting. Good plant for creating wildlife habitat.
<i>Symphoricarpos orbiculatus</i> Coralberry	2-5'h 4-8'w	spreading, arching	4-7	—	yellow-white	☉☾	Good ground cover for steep banks. Very soil adaptable.

*Check with the local extension service, Department of Natural Resources or Department of Agriculture for specific species recommendations for your area.*

# 8 More Information on Buckthorn

## WEBSITES

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Wildland Invasive Species Program –  
Invasives on the Web

*Nature Conservancy*

<http://tncweeds.ucdavis.edu/index.html>

The Truth about Exotic Species

*Minnesota Department of Natural Resources*

[www.dnr.state.mn.us/fish\\_and\\_wildlife/exotics/index.html](http://www.dnr.state.mn.us/fish_and_wildlife/exotics/index.html)

European (Common) Buckthorn

*Minnesota Department of Natural Resources*

[www.dnr.state.mn.us/fish\\_and\\_wildlife/exotics/buck.html](http://www.dnr.state.mn.us/fish_and_wildlife/exotics/buck.html)

Yard and Garden Brief—Common Buckthorn  
Identification

*University of Minnesota Extension Services*

[www.extension.umn.edu/projects/yardandgarden/ygbriefs/h402buckthorn-common.html](http://www.extension.umn.edu/projects/yardandgarden/ygbriefs/h402buckthorn-common.html)

Plant DataBase

*USDA, Natural Resources Conservation Service*

[http://plants.usda.gov/cgi\\_bin/topics.cgi](http://plants.usda.gov/cgi_bin/topics.cgi)

Buckthorn Information Page

*Eagan Forestry Division*

[www.cityofeagan.com/Forestry/buckthorn.htm](http://www.cityofeagan.com/Forestry/buckthorn.htm)

The Buckthorn Problem - by Elizabeth Ahrens

*Research supported by Neighborhood Planning for Community  
Revitalization, Minneapolis*

[www.npcr.org/reports/npcr1136/npcr1136.html](http://www.npcr.org/reports/npcr1136/npcr1136.html)

The Trouble with Backyard Buckthorn - by John Moriarty

*In the Minnesota Conservation Volunteer, published by  
Minnesota Department of Natural Resources*

[www.dnr.state.mn.us/information\\_and\\_education/  
publications/volunteer/articles/buckthorn.html](http://www.dnr.state.mn.us/information_and_education/publications/volunteer/articles/buckthorn.html)

## PRINTED MATERIALS

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Northern Gardener: Creating and Caring for Your  
Environment, April 2002 (*available in bulk only*)

*Minnesota Nursery and Landscape Association*

PO BOX 130307

Saint Paul, MN 55113

Phone: 651-633-4987

Wisconsin Manual of Control Recommendations for  
Ecologically Invasive Plants

*Bureau of Endangered Resources, Wisconsin DNR*

PO BOX 7921

Madison, WI 53707-7921

Phone: 608-267-5066

## MERCHANDISE

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"Buckthorn Busters" T-Shirts, Buttons, Signs,  
Display Materials

*University of Minnesota Extension Service,*

*Olmsted County*

1421 Third Avenue SE

Rochester, MN 55904-7947

Phone: 507-285-8250

[olmsted@extension.umn.edu](mailto:olmsted@extension.umn.edu)

## AGENCIES

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Invasive Species Program

*Minnesota Department of Agriculture*

90 West Plato Boulevard

Saint Paul, MN 55107-2094

Phone: 651-296-8448, 651-296-0592

[www.mda.state.mn.us/invasives/default.htm](http://www.mda.state.mn.us/invasives/default.htm)

Harmful Exotic Species Program

*Minnesota Department of Natural Resources*

500 Lafayette Rd, Box 25

Saint Paul, MN 55155-4025

Phone: 651-297-1464

[www.dnr.state.mn.us/ecological\\_services/exotics/index.html](http://www.dnr.state.mn.us/ecological_services/exotics/index.html)

City of Saint Paul, Division of Parks and Recreation

300 City Hall Annex

25 W. Fourth Street

Saint Paul, MN 55102

651-266-6400

TTY: 651-266-6378

[www.ci.saint-paul.mn.us/depts/parks](http://www.ci.saint-paul.mn.us/depts/parks)

Minneapolis Park and Recreation Board

Environmental Operations

3800 Bryant Avenue South

Minneapolis, MN 55409-1029

Phone: 612-370-4900

[www.minneapolisparks.org](http://www.minneapolisparks.org)

Friends of the Parks and Trails of Saint Paul  
and Ramsey County

1621 Beechwood Ave.

Saint Paul, MN 55116

Phone: 651-698-4543 Fax: 651-698-8761

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Metro Area Phone: 651-454-0002

MN Toll Free Phone: 1-800-252-1166



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Ramsey County Parks and Recreation  
Saint Paul and Minneapolis Neighborhood Associations  
Saint Paul City Council

University of Minnesota  
*Extension Service, Hennepin County Master Gardeners*  
*Horticultural Science Department*  
*Minnesota Landscape Arboretum*

Wisconsin Department of Natural Resources